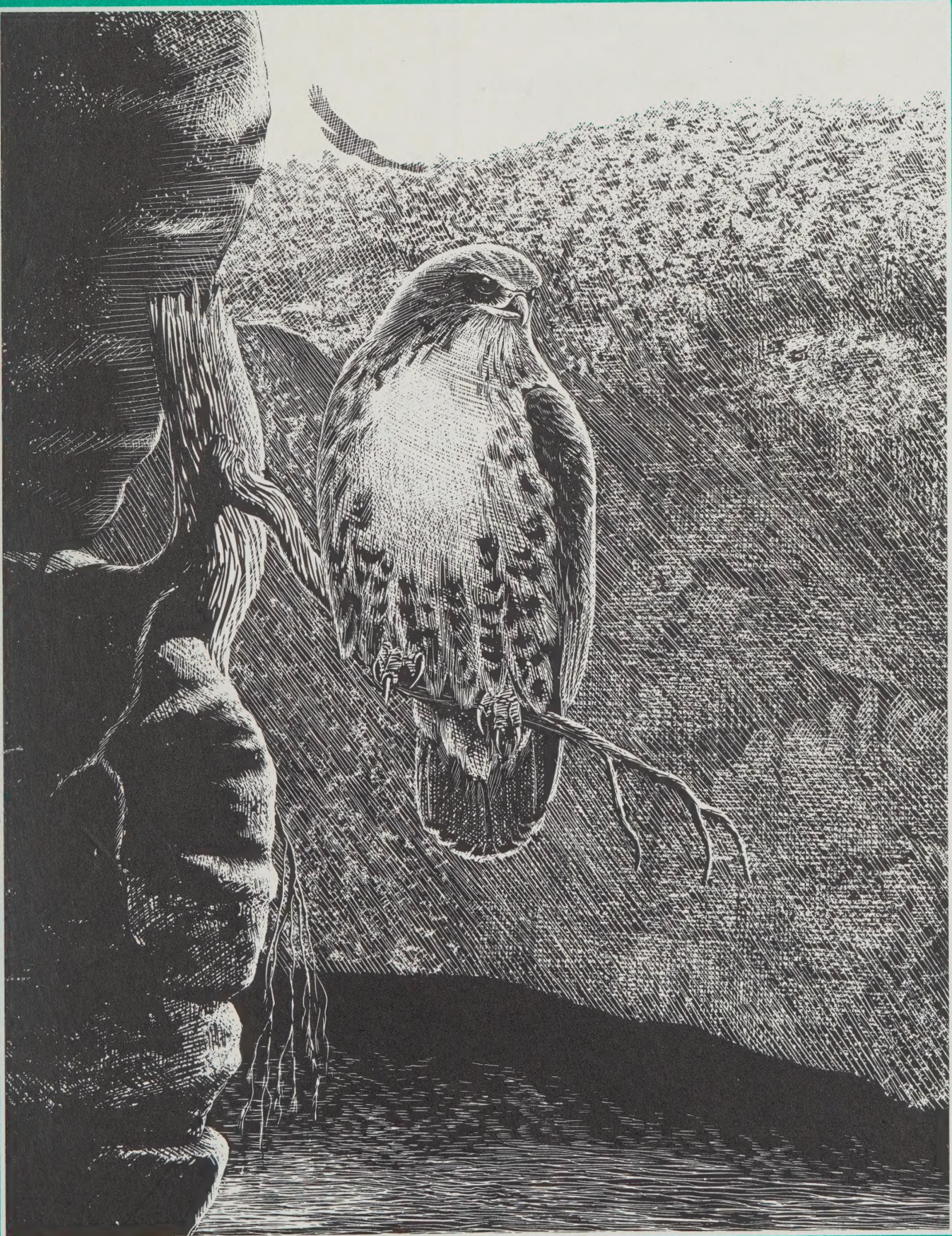




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# Barron Canyon Trail

History of the Canyon





# Barron Canyon Trail

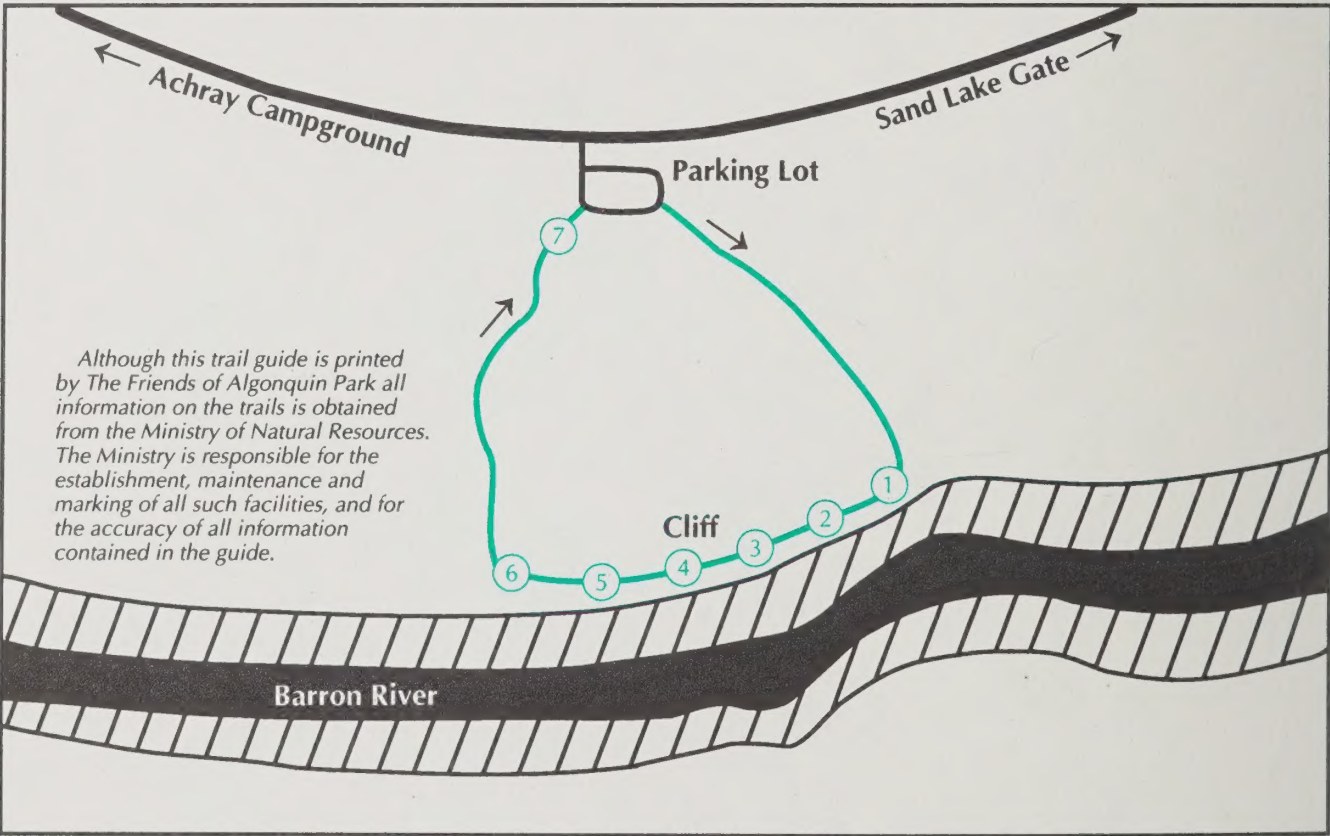
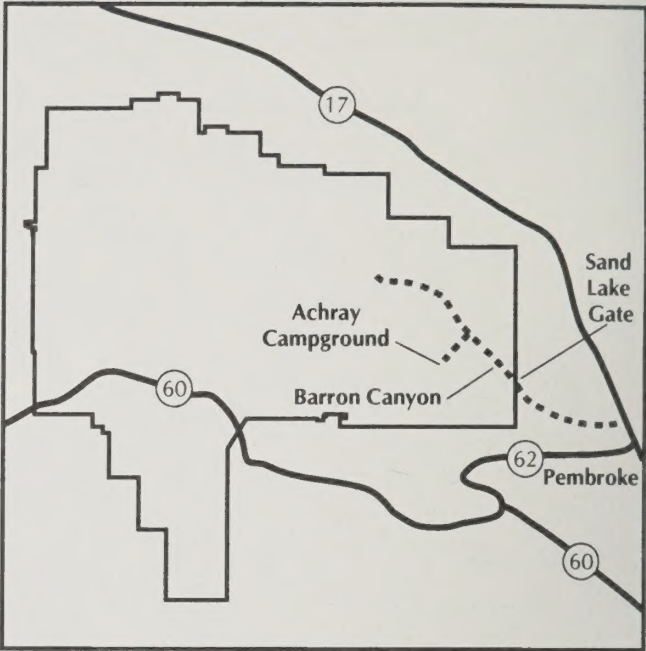
Text by Dan Strickland

Drawings by Howard Coneybeare

The Barron Canyon Trail is on the east side of Algonquin Park (a three hour, one way drive from the Hwy 60 part of the Park). It begins 11 km beyond (west of) the Sand Lake Gate and 8 km before (east of) the Achray turn-off on the Lake Travers road.

The trail itself is a 1.5 km loop leading to and along the north rim of the spectacular, 100 m deep Barron Canyon and then returning to the parking lot.

Please remember that you will be visiting a very high, unfenced cliff top from which a fall would be fatal. Exercise great care and keep children under physical control at all times.



The assistance of Dr. A. Davidson of the Geological Survey of Canada in the preparation of this trail guide is gratefully acknowledged.

## Post 1 A Breathtaking Chasm

Here at the edge of the Barron Canyon you can look down, not only at a spectacular view, but also deep into the distant past of what is now Algonquin Park.

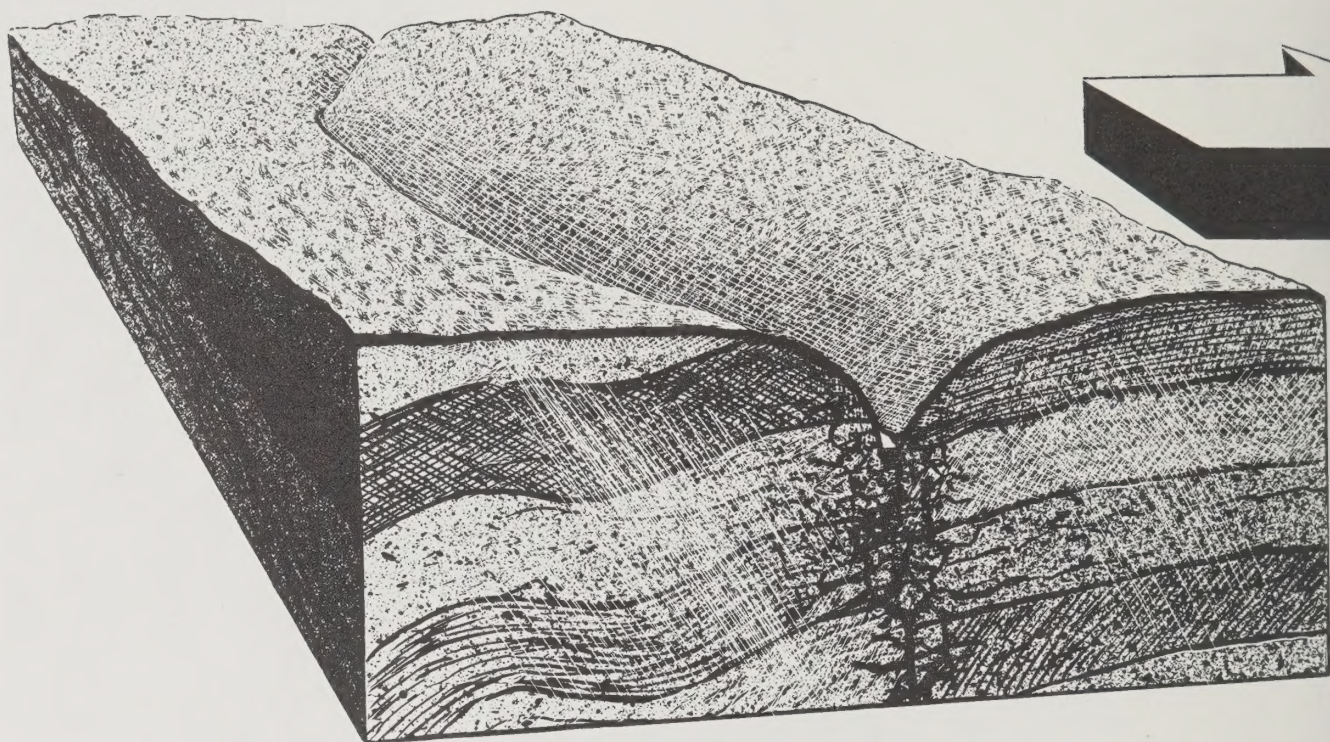
The rocks exposed in the Canyon are

part of the Canadian Shield, a huge area of ancient rocks that underlie most of central and northern Canada. These hard, crystalline rocks are of the type collectively referred to as "gneiss" (pronounced "nice").









**The Barron Canyon began as a fault (break) in the earth's crust and, over millions of years, was eroded to its present form.**

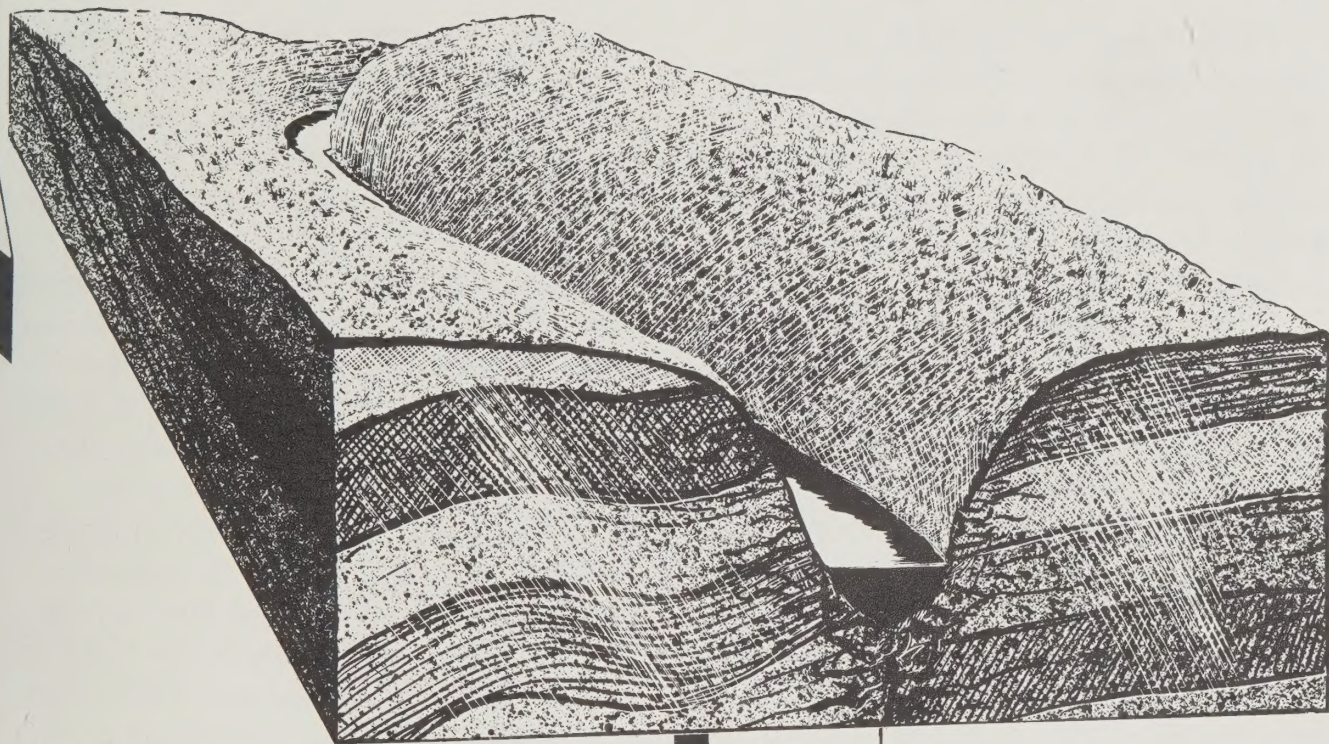
Gneisses are made deep in the crust of the Earth, and are only exposed for us to examine at the surface after a very long period of slow uplift accompanied by erosion that has worn away a great thickness of rock that once covered them. Gneisses form in the deep cores of mountain belts by recrystallization, at high temperature and pressure, of older rocks of various kinds. Under these conditions, rocks may become plastic (like putty) and may flow, forming folds and changing shape in this deforming process, during which they may gradually lose any obvious resemblance to the original rocks. This reconstitution of the rocks is called "metamorphism"; geologists tell us that these metamorphic rocks were once in part soft sediments deposited at the Earth's surface, and in part "igneous" rocks, derived from molten rock ("magma") that rose from deep in the crust and either came out from volcanoes at the surface and solidified as lava, or crystallized below the surface as granite, or other similar rock types.

Here, therefore, we are able to look into

the crystalline core of an ancient mountain chain. All the rocks in Algonquin Park are of the same type and belong to a much larger region, built about one billion years ago into mountains whose roots are now exposed all the way from Georgian Bay to the coast of Labrador. We refer to this whole region as the "Grenville Province" of the Canadian Shield, to distinguish it from even older mountain-built regions in other parts of the Shield, and from younger sedimentary rocks, not metamorphosed or deformed, that lie on top of it to the southeast and southwest.

The formation of the canyon itself, however, is not related to the ancient mountain-building process just described. It is, in fact, a very young feature, geologically speaking, formed toward the end of the last Ice Age, some 11,000 years ago. Its location, however, is dependent on an older geological structure. About 500 million years ago, after the Grenville Province mountain chain had been eroded away and its crystalline roots exposed, this region was submerged beneath a shallow





sea and marine sediments, mainly limestone, were deposited on its surface. Some time later, the region was uplifted and at the same time broken into large, northwest-trending blocks bounded by faults. You are standing at the edge of one such fault; the canyon formed originally along the line of

weakness made by the fault and has been enlarged to its present gaping proportions by erosion of the rocks on either side of the fault itself. Even today the canyon continues to widen as annual frost action shatters the rocks of the sheer walls, causing rock debris to accumulate on the talus slopes below.



## Post 2 "Dripping" with Lime

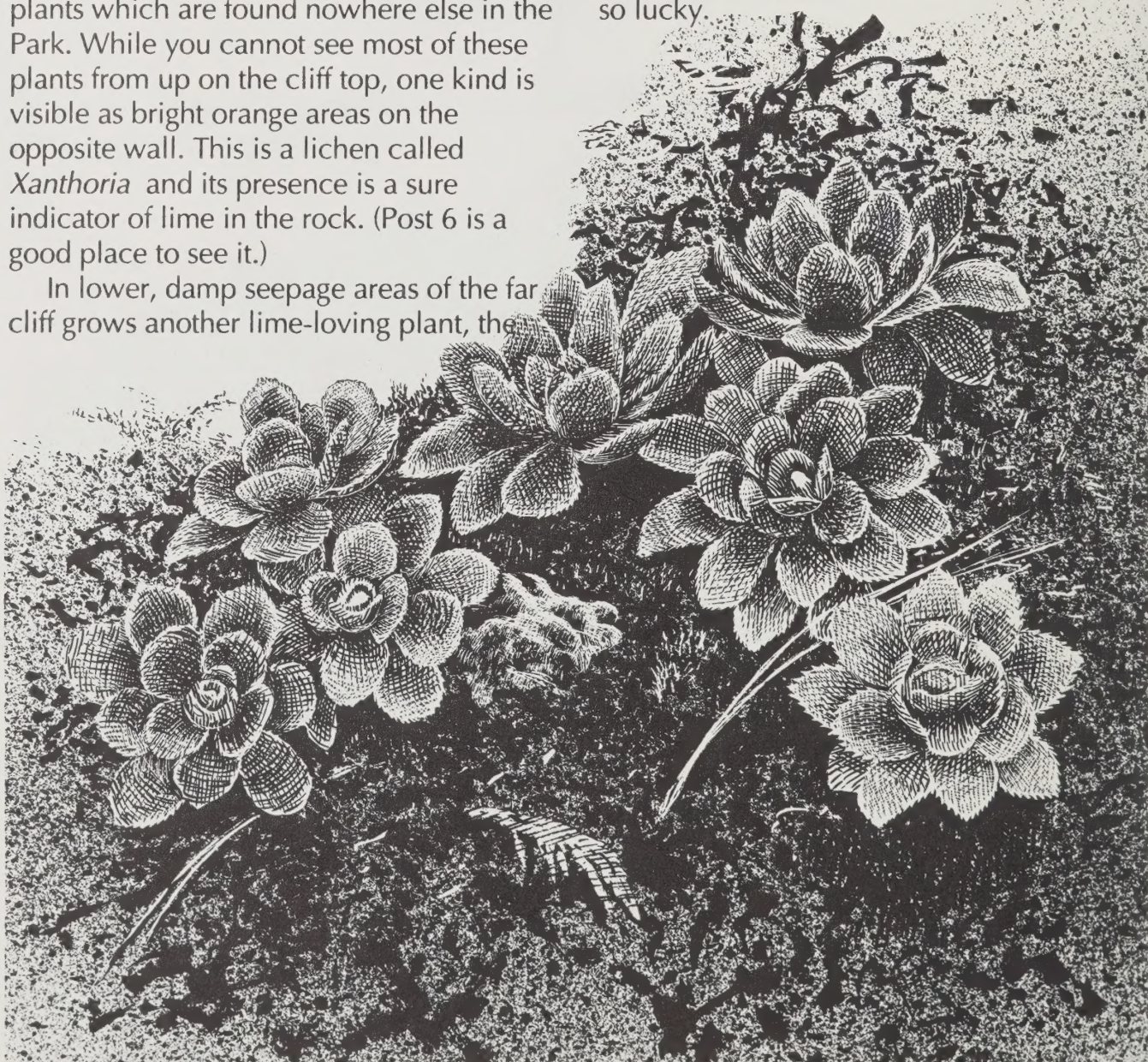
Faults in the earth's surface are often places where scarce chemicals percolate out of tiny fissures in the vertical walls and the Barron Canyon provides good examples of this. One is the concentration of iron in the canyon walls, indicated by their often quite reddish colour.

Much more important, however, is the canyon's richness in lime. Lime, or calcium carbonate, is one of those chemicals that has a profound influence on plant life because, when dissolved, it has a strong ability to neutralize acids and create its own distinctly favourable chemical environment. Normally it is quite rare in the granites and gneisses of Algonquin and its presence here has permitted the growth on the canyon walls of many rare, lime-loving plants which are found nowhere else in the Park. While you cannot see most of these plants from up on the cliff top, one kind is visible as bright orange areas on the opposite wall. This is a lichen called *Xanthoria* and its presence is a sure indicator of lime in the rock. (Post 6 is a good place to see it.)

In lower, damp seepage areas of the far cliff grows another lime-loving plant, the

Encrusted Saxifrage. The leaf margins of this rare northern species are actually encrusted with tiny spicules of calcium carbonate, formed from lime taken up by the plants from the lime-rich water seeping out of the cliff face.

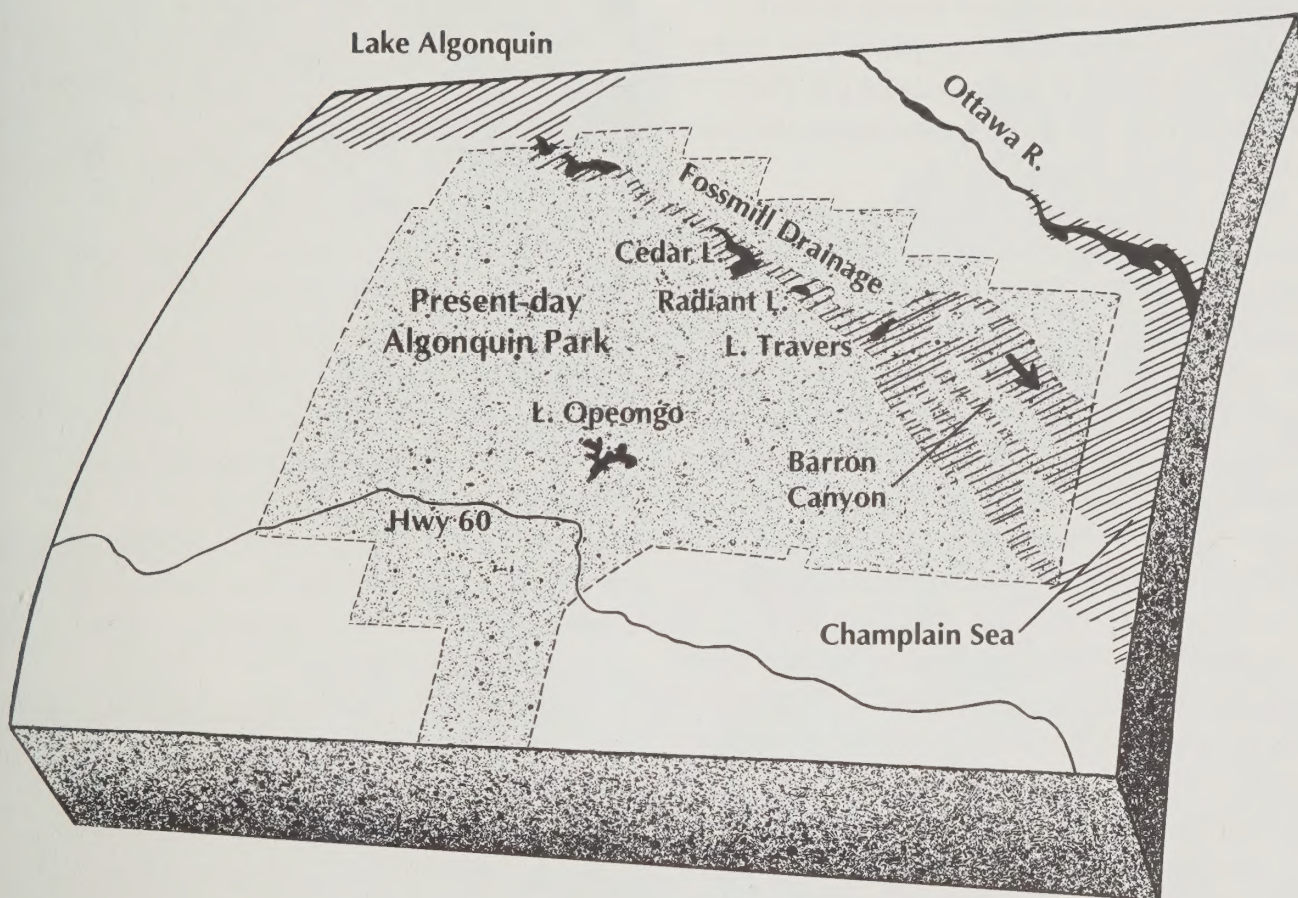
There is a further significance to the high concentration of lime in the Barron Canyon and in other similar fault zones in the eastern part of Algonquin Park. The lakes and rivers which lie in these fault zones contain distinctly higher than normal amounts of dissolved calcium carbonate and as a result are much more able to neutralize the acid rain and snow which now falls into them. Lakes on the higher, western uplands of Algonquin Park where lime is virtually non-existent aren't nearly so lucky.



Lime-loving Encrusted Saxifrage clings to the canyon walls



## Post 3 A Thousand Niagaras?



Far below you the gentle current of the Barron River carries water from a small part of Algonquin Park down towards the Ottawa River. It was not always so peaceful. Behind you is a forest; it was not always there either.

Ten thousand years ago Algonquin Park had only recently been exposed by the northward retreat of the melting glacier which had covered almost all of Canada and parts of the northern U.S.A. An arctic-like tundra covered the Park and this canyon carried water from the melting glacier which was still not far off to the north. To the west, Lake Algonquin, the forerunner of the modern upper Great Lakes had formed. This huge body of water, 50-100 metres higher than the present day Great Lakes, drained south through what is now the Mississippi River and later east through Lake Simcoe.

But, when the ice melted past the northern boundary of Algonquin, it ex-

posed a lower outlet at Fossmill, a stop on the same rail line which runs through Achray. Water from Lake Algonquin thundered through the new gap across the northeastern part of Algonquin and through the canyon before you. You are in fact standing on the shore of a prehistoric equivalent to the present day St. Lawrence River — the drainage channel of the Great Lakes. One geologist has suggested that the Barron River at its peak 10,000 years ago must have carried as much water as a thousand Niagara Falls. The fantastic spectacle lasted at most only a few centuries because the melting glacier retreated northward past an even lower outlet than Fossmill — the Lake Nipissing-Mattawa channel. Lake Algonquin then drained through the new channel into what is now the Ottawa River, and the Barron River Canyon, deprived of its major water source, became suddenly quiet and almost empty. Its days of sound and fury were over.

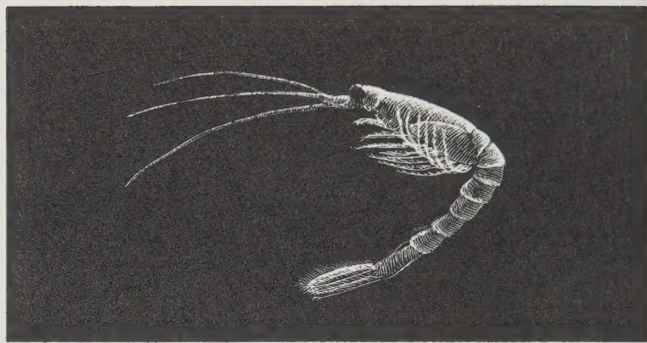


## Post 4 Ancient Leftovers

The days are long gone when the Barron Canyon was one of the channels of the Fossmill outlet draining the mighty Lake Algonquin out to the Champlain Sea. Here and there on the eastern side of the Park, however, signs of the thunderous river can still be found.

To the west of the canyon, evidence occurs in the chain of lakes beginning with Manitou and Kioshkokwi in the far north-west corner of Algonquin and extending down the Petawawa drainage including Cedar, Radiant, Travers, Grand and a few nearby lakes as well. (Map for Post 3 shows lake locations.) Deep down in the waters of these lakes live four tiny crustaceans, each less than 5 mm long, and which feed on even smaller animals and algae. None of them has a common name but the scientific term for the one pictured here, *Mysis relicta*, refers to the fact that it is a relict or survivor from the last Ice Age. A fifth leftover from those days is a strange looking fish, the Deepwater Sculpin, only 5 - 7 cm long, which preys on the relict crustaceans.

Nowadays these creatures are normally found only in cold, brackish waters of arctic regions and their presence here in some (and only some) parts of Algonquin is at first glance a bit of a mystery. It all makes sense, however, when you realize that the lakes where these relicts now occur all lie in what used to be the channels of the Fossmill drainage. When that cold river flowing through an almost arctic environment was abandoned, the relict organisms were stranded but were able to survive in the lakes left in the deeper parts of the



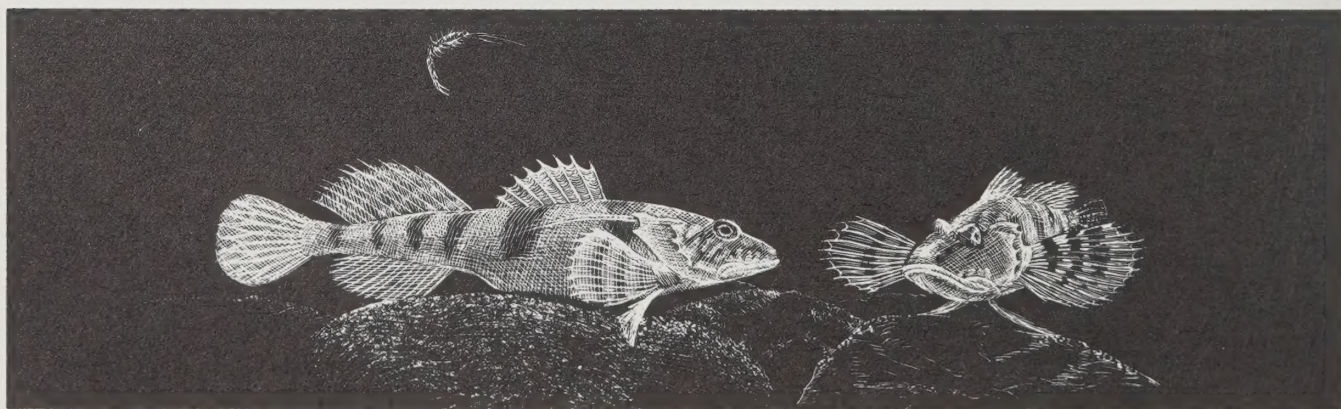
*Mysis relicta*, a relict crustacean

channel — and they persist here today.

To the east of the Barron Canyon lie the Petawawa sand plains. They formed where the Fossmill drainage reached the Champlain Sea and they bear witness (along with similar sand plains at Lake Travers and other river widenings farther upstream) to the enormous size of the old river and to the incredible volumes of material it obviously carried during its relatively brief heyday.

Here in the canyon itself, the signs of the raging river are less striking but one may simply be that the canyon is quite clean and unobstructed. The glaciers would have dumped a great deal of debris in the canyon but something has obviously acted since their departure to remove that material. The “something” was very likely the great Fossmill River. The Encrusted Saxifrage, mentioned earlier, may also be a holdover from the cold, arctic-like shores of Lake Algonquin and its outlet. Today the closest place it is found to Algonquin Park is the north shore of Lake Superior.

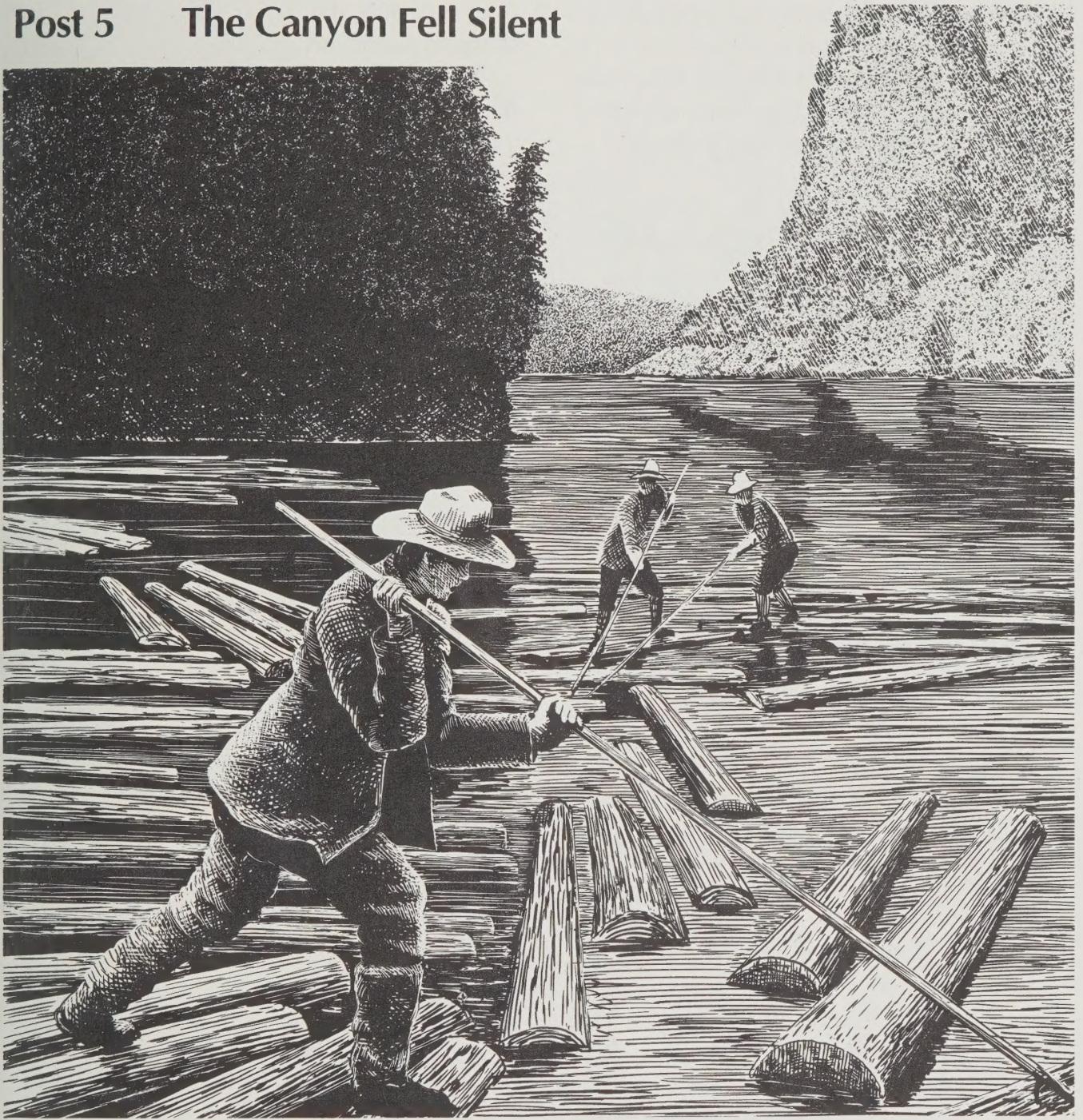
The saxifrage, the sand plains and the deep water relicts are apparently all just ancient leftovers from the days when the Barron Canyon was the channel of a mighty river.



The Deepwater Sculpin lives on in the depths of Cedar Lake.



## Post 5      The Canyon Fell Silent



**Well into this century, the Barron Canyon was the scene of log drives every spring.**

The Barron River ceased being a raging torrent some 10,000 years ago but that doesn't mean things have been perfectly quiet in the canyon since then. As a matter of fact, if you were able to go back in time and stand at this spot on a spring day in the 1800s you would be guaranteed of seeing a very busy and noisy spectacle indeed.

Hundreds of thousands of slowly moving logs would choke the river from one bank to the other and as far upstream and downstream as you could see. Dozens of men would be shouting and cursing as they pried at jams or ran over the logs from one trouble spot to another. You would be

overwhelmed by the sights and sounds of the annual log drive as it passed through the canyon.

In the early days the only way to get logs out of the wilderness was by floating the winter's cut out on swollen spring rivers and this one was no exception. As early as 1838, a Peter White was logging on the "South Branch of the Petawawa" as the Barron was then known. By 1842 early entrepreneurs like Charles L. Brigham, William Morris and the Thomson Brothers were cutting excellent quality white and red pine in the Barron River watershed. At first the great trees were squared in the bush



so they would fit better in the holds of the ships which would eventually take them to Britain. Later, for the developing American market, smaller, round logs were accepted and the squaring process was dispensed with.

Floating logs downstream may sound simple but, in addition to the inevitable log jams, there were rapids and waterfalls to contend with. The solution to such problems was found in the construction of wooden dams and then using the resultant head of water to flush the logs through elaborate wooden “chutes” which bypassed the rapids or falls. Dam and chute combinations like this were built on the Barron River as early as 1843 and soon the logging barons of the day were clamouring for more. By 1867, the Federal Department of Public Works had constructed 2,134 feet

of chutes and 388 feet of dams at eight different points on the river.

The last log drive on the Barron took place in the 1930s and, today, virtually all traces of that boisterous era have disappeared. It is true that you can still see a few signs of old dams and chutes if you look closely at places like Brigham Chute upstream from here, but the shouts of the men and the spectacle of the drive are now only dim memories. Even the old name (“the Capes”) which was used by the loggers for these towering cliffs has been largely forgotten.

The Barron Canyon has fallen silent. The east side of Algonquin continues to be the most important source of white and red pine logs in Ontario but nowadays they are trucked out of the Park on the same gravel road which you took to reach this trail.

## Post 6      Life Between Two Walls

It is perhaps not surprising that such an unusual feature of the earth’s surface makes for unusual conditions for the birds and animals that live here.

One example of this — although also true for other cliffs in Algonquin Park — is the secure nesting sites which the high rock walls of the canyon provide for Ravens and Red-tailed Hawks. More specific to the canyon are the opportunities afforded at the bottom of the cliffs, especially where rock walls plunge directly into the river. In these situations, Barn Swallows and Eastern Phoebe (a member of the flycatcher family) make their nests by plastering mud on the vertical rock faces, especially under protective overhangs. These birds are familiar to many people because they have recently taken to nesting on the vertical wooden surfaces we provide in the form of buildings. Before the white man arrived to perform this service, nesting sites for these two birds must have been restricted to places like the canyon. A hundred metres below you the Barn Swallows and Phoebe are living the way they did thousands of years ago.

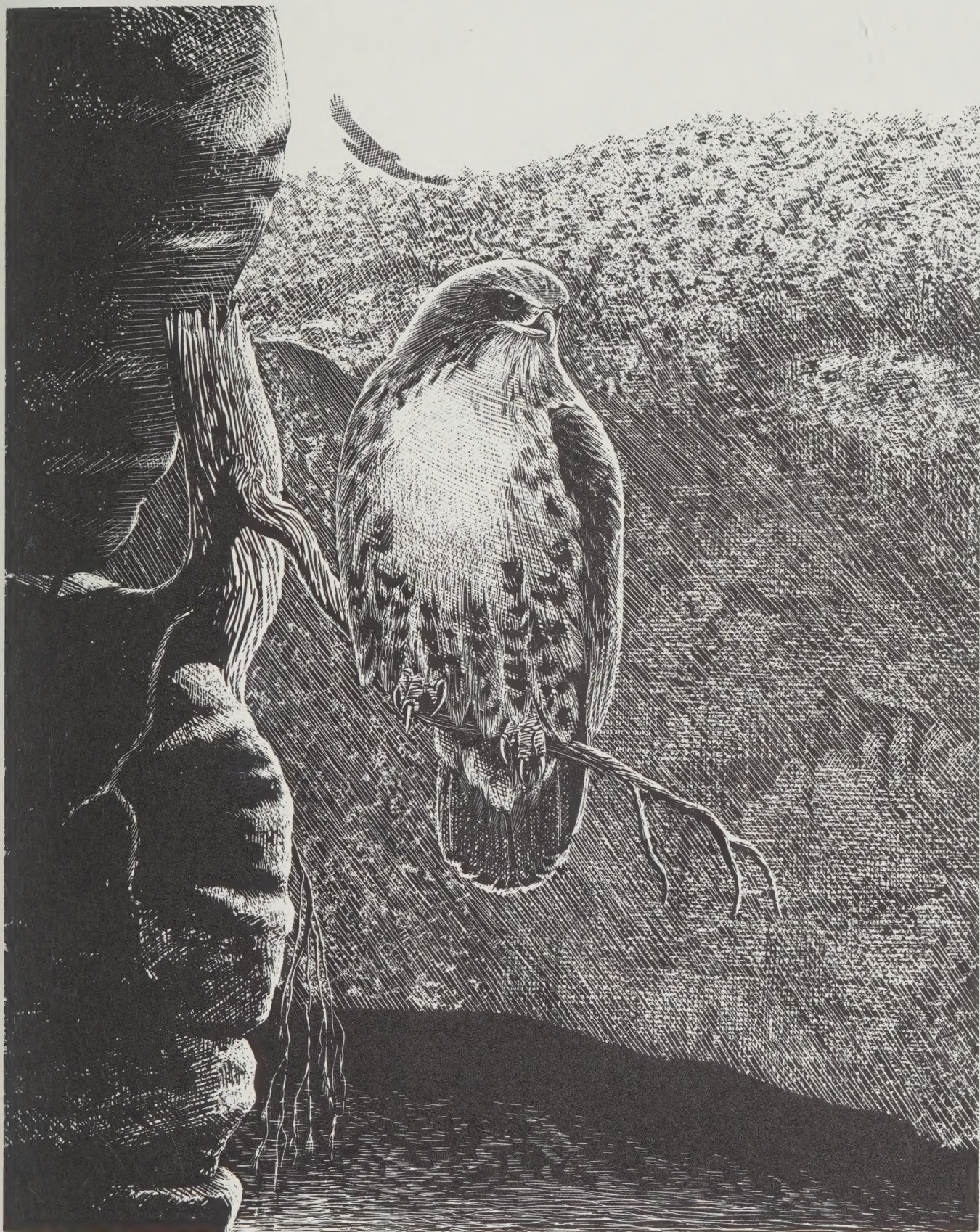
The wooded slopes in the canyon are

especially puzzling from a wildlife point of view for, although they are quite dry, they support at least three species of birds that are typically found in wet, boggy or swampy areas. The Yellow-bellied Flycatcher, the Northern Waterthrush and the Common Yellowthroat all live here, but why they do is an unsolved mystery.

None of these birds is present in the winter but that season can be the canyon’s most spectacular time for wildlife. Deer, browsing on trees at the edge of the frozen river, are sometimes surprised by wolves which also find the ice to be a convenient travel route. The possibilities for escape are quite limited in the canyon and every year a few deer are killed on the ice or the steep, treacherous slopes of fallen rock. Bald and Golden Eagles are almost never present in Algonquin Park during the summer but both visit the canyon in winter to feed on the scraps left by wolves. As many as six Bald Eagles have been seen here at one time.

Summer or winter, the Barron Canyon is a very special place for the plants and animals which live in or pass through it.





A pair of Red-tailed Hawks often nests on the canyon walls.

## Post 7

We hope you have enjoyed your walk around the Barron Canyon Trail and learning something about its natural history.

If you do not wish to keep this trail guide please place it in this box so that others

may use it later.

If you wish to keep the guide please pay at the trail entrance sign if you have not already done so.



## Other Algonquin Park Publications

This trail guide is only one of many publications produced by The Friends of Algonquin Park. The Friends is an independent registered charitable organization with a volunteer board of directors and was established in 1983 to assist the Park with its educational and interpretive programs.

The following is a list of other Friends' publications available at our two bookstores (located at the Visitor Centre and the Logging Museum) or by writing to the address below. Many are also available at the Sand Lake Gate and the Algonquin Portage Store beyond the gate on the Achray Road.

MAPS	(1994) Price
Canoe Routes of Algonquin Provincial Park* .....	\$4.95
Backpacking Trails of Algonquin Provincial Park* .....	1.39
Whitewater Guide to the Petawawa River .....	5.95

BOOKS	
Fishing in Algonquin Provincial Park .....	\$1.50
Birds of Algonquin Provincial Park .....	2.95
Mammals of Algonquin Provincial Park .....	1.50
Reptiles and Amphibians of Algonquin Provincial Park .....	1.00
A Pictorial History of Algonquin Provincial Park .....	1.50
Wildflowers of Algonquin Provincial Park .....	2.50
Mushrooms of Algonquin Provincial Park .....	2.50
Trees of Algonquin Provincial Park .....	2.95

### TRAIL GUIDES

Whiskey Rapids Trail* .....	\$0.35	Centennial Ridges Trail* .....	\$0.35
Hardwood Lookout Trail* .....	0.35	Lookout Trail* .....	0.35
Mizzy Lake Trail* .....	0.35	Booth's Rock Trail* .....	0.35
Peck Lake Trail* .....	0.35	Spruce Bog Boardwalk* .....	0.35
Track and Tower Trail* .....	0.35	Beaver Pond Trail* .....	0.35
Hemlock Bluff Trail* .....	0.35	Barron Canyon Trail* .....	0.35
Bat Lake Trail* .....	0.35	Berm Lake Trail* .....	0.35
Two Rivers Trail* .....	0.35	Brent Crater Trail* .....	0.35

### TECHNICAL BULLETINS

No. 1, Checklist of the Butterflies of Algonquin .....	\$0.75
No. 2, Checklist of the Bryophytes of Algonquin .....	0.50
No. 3, Wolf Howling in Algonquin Provincial Park .....	1.00
No. 4, Checklist of the Vascular Plants of Algonquin .....	2.00
No. 5, Acid Rain in Algonquin Provincial Park .....	0.75
No. 6, Checklist of the Conspicuous Fungi of Algonquin .....	1.50
No. 7, Checklist of the Lichens of Algonquin .....	0.50
No. 8, A Chronology of Algonquin Provincial Park .....	1.50
No. 9, Checklist & Seasonal Status of the Birds of Algonquin .....	1.25
No. 10, Names of Algonquin .....	2.50

*\*Également disponible en français*

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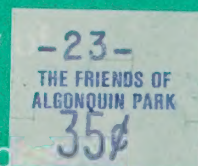
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